

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

Initially, the Examiner's attention is drawn to the Form PTO-1449 that was originally filed on August 24, 2001 with the undersigned's transmittal letter requesting initiation of US National Stage Proceedings in this application. That Form 1449 was filed August 24, 2001 with an attached copy of the International Search Report and a copy of each of the three references cited therein. According to the USPTO 371 acceptance letter mailed 10/23/2001, the USPTO file for this case should already have included such materials in any event.

However, the Office Action now being responded to did not reference any of these three references nor was an initialed copy of applicant's Form PTO-1449 returned. Accordingly, a new courtesy copy of these materials is attached hereto for the Examiner's convenience. It is assumed that for some reason they must have become separated and lost at the USPTO. Official consideration of same and return of a fully initialed copy of the Form PTO-1449 is respectfully requested.

Under the circumstances, it is not believed that any additional fee should be required for this stage of prosecution. However, if such fee is required, then authority is hereby given to charge it to our Account No. 14-1140.

In response to the Examiner's rejection of claim 4 under 35 U.S.C. §112, both second and first paragraphs, the claim has been amended so as to make it clear that the

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AMENDMENTS TO THE DRAWINGS

A set of proposed new substitute formal drawings is attached to cure the Examiner's informality objection to the originally filed drawings. The new Figures 4 and 9 include proposed changes shown in red on attached photocopies of these Figures.

Attachment: Replacement Sheet(s)
Annotated Sheet Showing Changes

“excess acceleration components” being referenced are actually high frequency components caused by instabilities in an operator’s hand (e.g., see page 4, lines 6 et seq. and page 5, lines 14 et seq. of the specification).

In response to the formality-based drawing objection, new formal drawings are also attached.

The above amendments also include minor changes so as to place this entire application in more acceptable and traditional US format.

Accordingly, all formal issues are now believed to have been overcome in the applicant’s favor.

The rejection of claims 1-4 under 35 U.S.C. §103 as allegedly being made “obvious” based on Grajski ‘135 and Radcliffe ‘443 is respectfully traversed.

The Grajski ‘135 handwriting recognition signal processor appears to assume that somehow signals have already been generated providing x, y coordinates of pen movement on a tablet surface. In particular, it does not appear that Grajski ‘135 in any way explicitly contemplates a handwriting recognition system using accelerometer-based inputs from a handheld stylus or the like – nor any way to process such accelerometer outputs so as to accurately and reliably obtain successive x, y coordinate data.

Accordingly, it is perhaps not surprising that Grajski ‘135 does not offer any teaching or suggestion with respect to time-domain frequency filtering (whether to reduce dc level components or higher frequency level components). Indeed, the Examiner has

admitted that Grajski does not “explicitly teach a filtering means to remove dc level components”. Nor, it might be added, does Grajski et al. teach (explicitly or implicitly) any time domain-filtering at all – let alone any bandpass time domain frequency filtering.

Indeed, Grajski ‘135 appears to be primarily concerned with random selection of x, y position data so as to provide a code book model of each letter during training. This reduces the number of points which need to be looked at to determine the HMM for each letter being written. While that particular recognition technique might well be employed with the eventual x, y stylus position data that would result from applicant’s invention, use of the applicant’s invention to develop the x, y stylus position data in the first place would improve performance of the Grajski ‘135 detection system.

As previously mentioned, while Grajski ‘135 does teach a signal recognition algorithm for reducing the amount of data that needs to be processed, nothing in Grajski ‘135 points to a processing method or system in which the input data stream is subjected to bandpass filtering in the time domain so as to eliminate the effects of (stable) gravitational pull and (unstable) high frequency components due to operator instability.

Although the Examiner does not appear to have recognized the full range of deficiencies in Grajski ‘135, to supply the one already recognized and admitted deficiency of Grajski (time domain frequency filtering to remove dc level components), the Examiner relies upon Radcliffe ‘443. However, Radcliffe only discloses use of a pressure sensor to verify (not recognize) a given signature as being made in real time by the authentic person that is supposed to be associated with that particular signature.

While in this context Radcliffe does teach time domain bandpass frequency filtering (in amplifier 12), this is for a different purpose and there is thus no suggestion in either reference for making the change apparently suggested by the Examiner. Nor would there be any purpose in doing so because Radcliffe '443 does not provide x, y position coordinate data. Rather, Radcliffe '443 merely produces a pressure waveform versus time – which then can be compared to an analogous pressure versus time waveform created by the known authentic signature writer.

Indeed, it is not at all clear to the undersigned how Grajski '135 might be “modified” so as to incorporate Radcliffe '443 circuitry, algorithm or otherwise. The particular Radcliffe '443 bandpass filtering removes frequencies below 2 Hertz (4:24-27) and above 14 Hertz (4:27-29). It is believed for this reason and others that any attempt to apply Radcliffe to Grajski (e.g., by somehow attempting to substitute x, y coordinate pairs of data with a pressure versus time waveform) would effectively render Grajski inoperative. In any event, any such “combination” of these references would still not address the problem addressed by the applicant’s claimed invention.

In an attempt to avoid any further misunderstanding, independent claim 1 has now been cancelled in favor of new independent claim 5 and dependencies of claims 2 and 3 have been modified accordingly. New dependent claims 6, 11 and 12 add yet further features to the claimed invention. Independent claim 7 and dependent claims 8-10 and 13, 14 also are believed to be patentably distinct from any possible teaching or suggestion of the cited references.

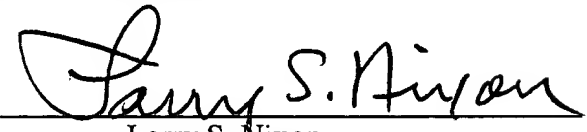
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Finally, attention is also directed to new method claim 15 and apparatus claim 16 which are more specifically directed towards bandpass filtering accelerometer signals from a handheld device to reduce (a) dc components caused by gravity and (b) high frequency components caused by operator hand instability. As noted above, there is simply no such teaching or suggestion in either of the cited references.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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PROPOSED DRAWING AMENDMENTS
FOR SN 09/914,262

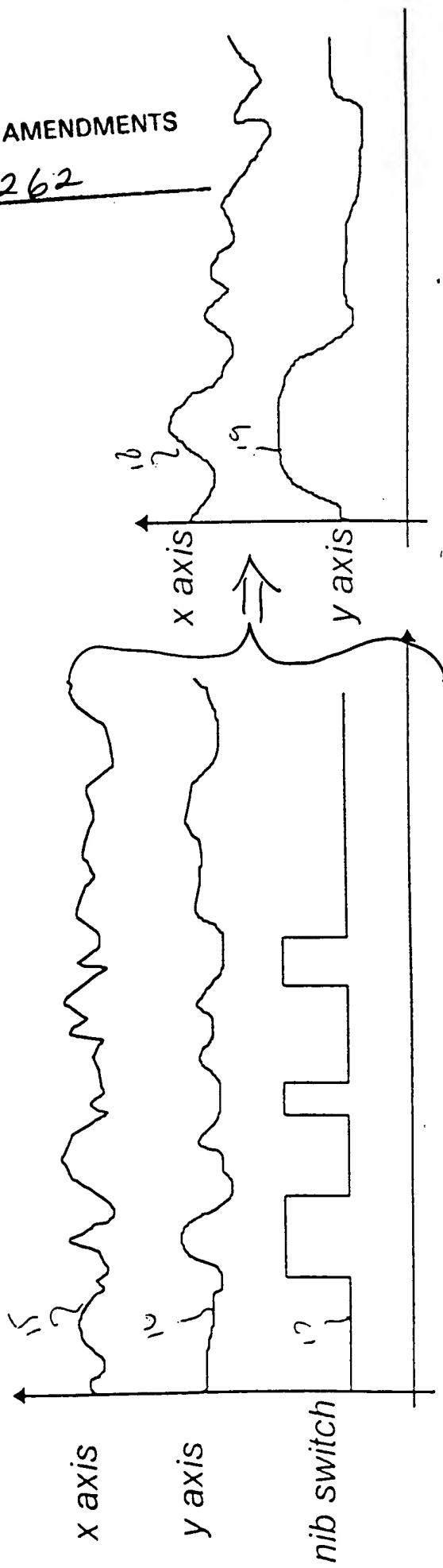


FIG 4



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PROPOSED DRAWING AMENDMENTS

~~Fig. 9~~ FOR SN 09/914,262

Fig. 9

